6. The turbofan aircraft engine as recited in claim **5** wherein each stage pressure ratio is at least 1.65.

7. The turbofan aircraft engine as recited in claim **1** wherein a product of an exit area of the second turbine and a square of a rotational speed of the second turbine at the design point is at least $4.5 \cdot 10^{10}$ [$in^2 \cdot rpm^2$], and a blade tip velocity of at least one turbine stage of the second turbine at the design point is at least 400 meters per second.

8. A turbofan aircraft engine comprising:

a primary duct including a combustion chamber, a first turbine disposed downstream of the combustion chamber, a compressor disposed upstream of the combustion chamber and coupled to the first turbine, and a second turbine having a plurality of turbine stages having rotor blades and disposed downstream of the first turbine and coupled via a speed reduction mechanism to a fan for feeding a secondary duct of the turbofan aircraft engine;

the second turbine having a total stage count (n_{St}) of all turbine stages of the second turbine, a total blade count (N_{BV}) of all rotor blades and stator vanes of all turbine stages of the second turbine, a stage pressure ratio of the pressure at the inlet to the pressure at the outlet at each turbine stage, and a total pressure ratio (p_1/p_2) of the pressure at the inlet of a first turbine stage to the pressure at the exit of a last turbine stage of the second turbine at a design point, wherein a product of an exit area of the second turbine and a square of a rotational speed of the second turbine at the design point is at least $4.5 \cdot 10^{10}$ [$in^2 \cdot rpm^2$], and wherein at least one stage pressure ratio is at least 1.5, and a blade tip velocity of at least one turbine stage of the second turbine at the design point is at least 400 meters per second.

9. The turbofan aircraft engine as recited in claim **8** wherein each stage pressure ratio is at least 1.5.

10. The turbofan aircraft engine as recited in claim **8** wherein the product of the exit area of the second turbine and the square of the rotational speed of the second turbine is at least $5 \cdot 10^{10}$ [$in^2 \cdot rpm^2$] and/or at least one stage pressure ratio is at least 1.6, and/or a blade tip velocity of at least one stage of the second turbine at the design point is at least 450 meters per second.

11. The turbofan aircraft engine as recited in claim **10** wherein each stage pressure ratio is at least 1.6.

12. The turbofan aircraft engine as recited in claim **10** wherein at least one stage pressure ratio is at least 1.65.

13. The turbofan aircraft engine as recited in claim **12** wherein each stage pressure ratio is at least 1.65.

14. The turbofan aircraft engine as recited in claim **1** wherein a bypass area ratio of an inlet area (A_B) of the secondary duct to an inlet area (A_C) of the primary duct is at least 7.

15. The turbofan aircraft engine as recited in claim **1** wherein a bypass area ratio of an inlet area (A_B) of the secondary duct to an inlet area (A_C) of the primary duct is at least 10.

16. The turbofan aircraft engine as recited in claim **1** wherein the maximum blade diameter of the fan is at least 1.2 m.

17. A passenger jet for at least 10 passengers comprising the turbofan aircraft engine as recited in claim **1**.

18. The passenger jet as recited in claim **17** having a cruising altitude of at least 1200 m and/or no more than 15000 m and/or a cruising speed of at least 0.4 [Ma] and/or no more than 0.9 [Ma].

19. A method for designing a turbofan aircraft engine as recited in claim **1**, wherein the second turbine is designed such that at least one stage pressure ratio is at least 1.5 and that a quotient ($N_{BV}/110$) of the total blade count divided by 110 is less than a difference ([$(p_1/p_2)-1$]) of the total pressure ratio minus one, with the total pressure ratio being greater than 4.5, and the turbine has at least two and no more than five turbine stages, and/or that a product (An^2) of an exit area (A_L) of the second turbine and a square of a rotational speed of the second turbine at the design point is at least $4.5 \cdot 10^{10}$ [$in^2 \cdot rpm^2$], with a blade tip velocity (u_{TIP}) of at least one turbine stage of the second turbine at the design point being at least 400 meters per second.

20. The method as recited in claim **19** wherein each stage pressure ratio is at least 1.5.

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